

45 1 54. (Amended) Probe Card Assembly, according to claim *53*, wherein:

2 the first plurality of elongate contact structures are mounted directly to terminals on the first
3 surface of the space transformer.

46 1 55. (Amended) Probe Card Assembly, according to claim *53*, wherein:

2 the first plurality of elongate contact structures are connected to terminals on the first
3 surface of the space transformer.

47 1 56. (Amended) Probe Card Assembly, according to claim *53*, wherein:

2 the first plurality of elongate contact structures are composite interconnection elements.

51 1 56. (Twice Amended) Probe Card Assembly, according to claim *53*, wherein:

2 the contact pads are disposed at a first pitch on the second surface of the space transformer;
3 the first plurality of elongate contact structures each having a contact region, the contact
4 regions disposed at a second pitch; and
5 the first pitch is greater than the second pitch wherein the first pitch is a shortest distance
6 between any two adjacent contact pads and the second pitch is a shortest distance between any two
7 adjacent elongate contact structures.

REMARKS

In response to the above-identified Office Action, Applicant amends the application and seeks reconsideration thereof. Claims 5, 8-14, 27-33, 35, 44-48, 52-56, and 60 have been amended. No claims have been canceled, and no claims have been added. Claims 2-4 and 43 have been allowed. Accordingly, Claims 2-33, 35, and 43-60 are pending.

I. Specification

The Examiner objected to the disclosure for informalities relating to the section titled "CROSS-REFERENCE TO RELATED APPLICATIONS". Applicant has amended the specification as indicated above to remedy the informalities noted by the Examiner. Thus, Applicant respectfully requests approval of the amendments.

II. Claims Rejected Under 35 U.S.C. § 112

The Examiner rejected Claims 5-7 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As indicated above, Applicant has amended Claim 5 per the Examiner's suggestion. Accordingly, Applicant respectfully requests withdrawal of the rejection of Claim 5 and its dependent claims.

III. Claims Rejected Under 35 U.S.C. 102

The Examiner rejected Claims 8-33, 35, and 44-60 under 35 U.S.C. 102(b) as being anticipated by Driller et al. (U.S. Patent No. 5,109,596, hereinafter "Driller"). Applicant has amended Claims 8-14, 27-33, 35, 44-48, 52-56, and 60 in response to the rejection. Applicant submits that the amendment raises no new issues since elongate contact structures would have been covered by the Examiner's previous search, and entry of the amendment is respectfully requested.

Applicant first notes that it is axiomatic that to anticipate a claim, every element of the claim must be disclosed within a single reference. Each of the amended claims listed above require elongate contact structures, which are absent from Driller. Thus, Driller can not anticipate the amended claims or claims dependent upon them. Such structures are also not suggested by Driller. Applicant further contends that a number of the features of the dependent claims are also not present in the references cited in the Office Action. However, as those claims are all also patentable as dependent on a patentable independent claim, no further argument need be presented here. Accordingly, Applicant requests withdrawal of the rejection of Claims 8-33, 35, and 44-60.

The Examiner also rejected Claims 45-60 under 35 U.S.C. 102(b) as being anticipated by any one of Japanese Patent 62-44285 (hereinafter "JP '285"), Otsuka et al. (corrected from Kanji et al., U.S. Patent No. 5,067,007, hereinafter "Otsuka"), Benarr et al. (U.S. Patent No. 4,548,451, hereinafter "Benarr"), or Boegh-Petersen (U.S. Patent No. 4,707,657, hereinafter "Boegh-Petersen"). Applicant respectfully traverses this rejection in response to JP '285, Otsuka, and Benarr.

As mentioned above, a single reference must include every element of a claim in order to anticipate that claim. First, JP '285 seems directed to a different field of technology since the abstract states that the invention deals with a redundant fuse connected to a redundant circuit with an energy beam. Clarification is respectfully requested. Second, Otsuka discloses two separate embodiments, neither of which teach or suggest the limitations of Claims 45-60. For example, the probe card embodiment of Otsuka (FIG. 4) lacks a space transformer and contact terminals on the probe card. Moreover, Otsuka's printed wiring board embodiment (FIG. 1) lacks a probe card altogether. Third, Benarr fails to teach or suggest a probe card much less one exhibiting the features claimed. Fourth, Boegh-Petersen is overcome by the amendments to Claims 45-48, 52-56, and 60 since Boegh-Petersen fails to teach or suggest the use of elongate contact structures as set forth in the aforementioned claims.

Thus, Applicant respectfully requests withdrawal of the rejection of Claims 45-60 since none of the references anticipate the claims as amended.

The Examiner further rejected Claims 45-60 under 35 U.S.C. 102(a), (b), and (e) as being anticipated by Bargain et al. (U.S. Patent No. 5,437,556, hereinafter "Bargain"). Applicant respectfully traverses this rejection. Specifically, Bargain can not anticipate Claims 45-60 because Bargain fails to disclose contact pads on the space transformer. Bargain fails to teach or suggest a probe card assembly of any kind; rather it merely teaches an intermediate connector between a printed circuit board and a substrate. Applicant respectfully submits that Bargain is not analogous art to that which is claimed. Thus, Applicant respectfully requests withdrawal of the rejection of Claims 45-60 as Bargain can not anticipate the amended claims.

The Examiner rejected Claims 45-60 also under 35 U.S.C. 102(e) as being anticipated by Higgins et al. (U.S. Patent No. 5,828,226, hereinafter “Higgins”). Applicant respectfully traverses this rejection. Applicant submits that in view of Applicant’s priority date dating back to well before Higgins filing date, Higgins is not prior art to this application.

The Examiner further rejected Claims 53-60 under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 63-243768 (hereinafter “JP ‘768”). The Examiner also rejected Claims 53-60 under 35 U.S.C. 102(a) and (b) as being anticipated by German Patent DE 4237591 (hereinafter “GP ‘591”). Applicant respectfully traverses both rejections. Specifically, neither JP ‘768 nor GP ‘591 can anticipate Claims 53-60 as amended because both references fail to teach or suggest elongate contact structures extending from a space transformer. Therefore, Applicant respectfully requests withdrawal of these rejections.

ALLOWABLE SUBJECT MATTER

Applicant notes with appreciation the Examiner’s indication that Claims 2-7 and 43 contain allowable subject matter.



CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance, and such action is earnestly solicited at the earliest possible date.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Thomas Coester

Thomas M. Coester, Reg. No. 39,637

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12400 Wilshire Blvd.
Seventh Floor
Los Angeles, California 90025
(310) 207-3800

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Box Non-Fee Amendment, Assistant Commissioner for Patents, Washington, D.C. 20231, on December 13, 2000.

Laura Harmon

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December 13, 2000

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